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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604726A Integrated Meteorological System (IMETS) (TIARA)				PROJECT DD85		
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
DD85 Integrated Meteorological System (IMETS)	1823	1777	2318	1782	1918	1911	982	981	8008	29741
<p>A. <u>Mission Description:</u> This program element, Integrated Meteorological System (IMETS), funds the development of the IMETS evolving upgrades to the fielded IMETS, integrating the Defense Information Infrastructure (DII) and Common Operating Environment (COE). The IMETS is a mobile tactical automated weather data receiving, processing, and dissemination system designed to provide timely weather and environmental effect forecasts, observations, and decision aid support to the Army. The IMETS is an Army-furnished system consisting of a standard shelter and vehicle, and Army Common Hardware and Software of the Army Battle Command System (ABCS) which will be operated by Air Force weather personnel and maintained within planned Army support for systems and components IAW AR 115-10/AFR 105-3. It is essential that the battlefield commander be provided the most accurate and timely weather data for his intelligence preparation of the battlefield. IMETS is the first link in providing this data.</p> <p>FY 1998 Accomplishments:</p> <ul style="list-style-type: none"> • 1147 Developed, investigated and applied advanced technologies to the IMETS prototype for expanded capabilities and performance in the areas of battlescale forecast modeling, Integrated Weather Effects Decision Aid, Vis5D, Target Area Met, thunderstorm and turbulence model, and weather overlays on ATCCS SITMAP; supported ABCS 3.0, 3.1, 4.0, 4.1 software baseline deliveries • 676 Evaluated, configured and integrated high performance expanded tech base prototype capabilities into operational IMETS prototypes <p>Total 1823</p> <p>FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • 872 Continue to investigate, develop, test and apply advanced software and hardware processing, storage, display and input/output (I/O) technologies to tech base prototypes of high performance expanded weather applications capabilities including continued battlescale forecast modeling; evaluation of the DoD Meteorological Satellite Program Special Sensor Data, environmental record data, for integration into the Weather Effects database; generate Down Wind Message from BFM; adapt AF EOTDA to Army Applications, Applications to support Aviation Mission Planning; develop heat/cold tactical decision aid; certify DII/COE level 5 compliance for UNIX operating system; preliminary investigation of laptop configuration. • 858 Continue to evaluate, configure and integrate tech base prototype capabilities into operational IMETS prototypes • 47 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs <p>Total 1777</p>										
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<p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 470 Support to ABCS First Digitized Division (FDD) • 940 Complete initial neural network method for retrieval of wind profiles from meteorological satellite sounder data • 908 Conduct V&V of battlescale Forecast Model (predicts icing, low clouds, turbulence, precipitation and visibility for input to battlefield decision aids) and V&V of combined temperature retrieval methods that use data from ground-based microwave radiometer and meteorological satellite sounders; convert weather applications to laptop configuration. <p>Total 2318</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 470 Support ABCS Digitized Corps • 803 Conduct V&V of neural network method for retrieval of wind profiles from meteorological satellite sounder data; integrate combined temperature retrieval method for Mobile Profiler Processor for Area of Operation temperature; integrate joint weather impact on weapon systems into decision aids; port weather functional software applications to windows, portable environment; develop weather data server for distributing IMETS gridded meteorological data and weather impacts database information to ABCS clients at lower echelons where there is no full IMETS capability; certify DII/COE level five compliance for laptop configuration. • 509 Implement a capability for IMETS to participate with both live and synthetic weather scenarios in live, virtual and constructive simulation exercises leading to first digital Corps <p>Total 1782</p>																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">B. Program Change Summary</th> <th style="text-align: center;"><u>FY 1998</u></th> <th style="text-align: center;"><u>FY 1999</u></th> <th style="text-align: center;"><u>FY 2000</u></th> <th style="text-align: center;"><u>FY 2001</u></th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget (FY 1999 PB)</td> <td style="text-align: center;">1887</td> <td style="text-align: center;">1790</td> <td style="text-align: center;">2192</td> <td style="text-align: center;">1669</td> </tr> <tr> <td>Appropriated Value</td> <td style="text-align: center;">1946</td> <td style="text-align: center;">1790</td> <td></td> <td></td> </tr> <tr> <td>Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>a. Congressional General Reductions</td> <td style="text-align: center;">-59</td> <td style="text-align: center;">-13</td> <td></td> <td></td> </tr> <tr> <td>b. SBIR / STTR</td> <td style="text-align: center;">-48</td> <td></td> <td></td> <td></td> </tr> <tr> <td>c. Omnibus or Other Above Threshold Reduction</td> <td style="text-align: center;">-16</td> <td></td> <td></td> <td></td> </tr> <tr> <td>d. Below Threshold Reprogramming</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Adjustments to Budget Years Since FY 1999 PB</td> <td></td> <td></td> <td style="text-align: center;">+126</td> <td style="text-align: center;">+113</td> </tr> <tr> <td>Current Budget Submit (FY 2000/2001 PB)</td> <td style="text-align: center;">1823</td> <td style="text-align: center;">1777</td> <td style="text-align: center;">2318</td> <td style="text-align: center;">1782</td> </tr> </tbody> </table>			B. Program Change Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Previous President's Budget (FY 1999 PB)	1887	1790	2192	1669	Appropriated Value	1946	1790			Adjustments to Appropriated Value					a. Congressional General Reductions	-59	-13			b. SBIR / STTR	-48				c. Omnibus or Other Above Threshold Reduction	-16				d. Below Threshold Reprogramming					e. Rescissions					Adjustments to Budget Years Since FY 1999 PB			+126	+113	Current Budget Submit (FY 2000/2001 PB)	1823	1777	2318	1782
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C. Other Program Funding Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To Compl	Total Cost
OPA 2 - SSN: BW0021-IMETS	1329	4876	5469	7069	1035	0	0	0	0	19778

D. Acquisition Strategy: The IMETS development program is an interactive technical initiative that includes integration of the Air Force, Army, DII COE and the Army C4I Technical Architecture. The IMETS NDI acquisition strategy has proven successful in the fielding of twenty systems since program initiation in FY 1992. This development strategy will be continued to include software modules as they mature and become part of the COE library. A common map server update is of primary focus along with increased user distributed communication environment interoperability. Weather tactical decision aid upgrades and updated forecaster aids will be developed to include products from Air Force initiatives called Quick Response Communication Terminal, Small Tactical Terminal for the Defense Meteorological Satellite Program (DMSP and high resolution domestic and foreign weather satellite data). Application modules from the Army Research Laboratory will be integrated and fielded as an upgrade to the current software baseline.

E. Schedule Profile	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
Expand Battlescale Forecast Model	2-4Q			1-4Q	1-4Q	1-4Q	1-4Q
Develop/Integrate Visualization 5D program	3-4Q	3-4Q	3-4Q				
Develop Thunderstorm and turbulence model	2-4Q						
AF Weather Effects re-engineering integration	1-4Q	1-4Q					
Convert weather effects apps to other platforms			1-4Q	1-4Q	1-4Q	1-4Q	
Integrated Weather Effects Decision Aid update (laptop integration)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
DII/COE Level 5 segmentation	2-4Q	1-4Q					
Integrate DMSP Environmental Data Record, weather effects sounder data	2-4Q	1Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Develop application for Aviation Mission Planning	2-4Q	1-4Q					
Develop heat/cold tactical decision aid	2Q						
Support ABCS effort	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Product Integration	CPAF, Task Order	Logicon RDA Tacoma, WA	8851	569	1Q 99	462	1Q 00	412	1Q 01	1851	12145	
b. Weather Application	MIPR	ARL, White Sands Missile Range, NM	750	687	None	869	None	770	None	6092	9181	
c. GFE	MIPR	PEO C3S Ft. Monmouth, NJ				287	1Q 00				287	
Subtotal Product Development:			9601	1256		1618		1182		7943	21613	

Remark: The target value of the contract is based on the total contract with task orders written against it. There is no target value associated with each task order.

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Documentation Coordination	MIPR	CECOM		200	2Q 99	300	2Q 00	200	2Q 01	1850	2550	
b. Program Office	MIPR	PMO Intel Fusion McLean, VA	450	121	1Q 99	200	1Q 00	200	1Q 01	1696	2667	
Subtotal Support Costs:			450	321		500		400		3546	5217	

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. ABCS	MIPR	ARL, White Sands Missile Range, NM		200	1Q 99	200	1Q 00	200	1Q 01	2311	2911	
Subtotal Test and Evaluation:				200		200		200		2311	2911	

Remark: No target value associated with the MIPR.

IV. Management Services: None

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BUDGET ACTIVITY

5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE

**0604726A Integrated Meteorological System
(IMETS) (TIARA)**

PROJECT

DD85

	Total PYs Cost	<u>FY 1999</u> Cost		<u>FY 2000</u> Cost		<u>FY 2001</u> Cost		Cost To Complete	Total Cost	Target Value of Contract
Project Total Cost:	10051	1777		2318		1782		13800	29741	

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